March 6, 1996

Overview of 1996 Supplemental Actions to Delta Accord Using CVPIA "tools" to Improve Fishery Protection Under the Anadromous Fish Restoration Program.

Priority Order	Accord	Action	Primary Species **	Potential Benefit [F]	Change in Water Supply*
1.	Export 50 to 100% of Vernalis flow during April/May pulse.	Vernalis to export ratio objective, 20 to 50%, April/May pulse. (25% in Above Normal 1996)	Fall-run Chinook. (Striped Bass, Steelhead, Sturgeon)	Smolt survival increase.	100 [A]
2.	No objective.	Minimum 13,000 cfs flow at Freeport in May.	Striped Bass. (Fall, spring run Chinook, Steelhead, American Shad, Sturgeon)	Reduce egg settling and transport of egg/larvae to productive rearing areas.	Minor [B]
3.	July export 65% of Delta inflow from 35% in June.	July ramping of DOF and exports.	Striped Bass. (American Shad).	Increase juvenile survival due to lesser export.	0-75 kaf [C]
4.	X2 days at Chipps Island in May and June-as in 1971.	X2 days when at Chipps Island in May and June - as in 1962.	Striped Bass. (Fall, spring, winter-run Chinook., Steelhead, Am. Shad, Sturgeon)	Extends improved rearing conditions in W. Delta.	Minor [D]
5.	November-January export 65% of delta inflow.	Establish conditions for cwt smolt survival experiment in Dec/Jan at exports of 35 and 65% of DOF.	CWT Late-fall Chinook (Spring and winter run)	Gain information on the benefit of reduced E/I ratio in November-January period of spring, late fall, winter-run Chinook.	100-140 kaf [E]

* Potential change in water supply are preliminary and should not be quoted. This information reflects operators/biologist meeting of 3/5/96 and is provided to improve communication among all involved agencies and stakeholders groups. CVP/SWP operators are refining cost estimates and feasibility of actions assuming an above round water year and at 90% exceedance. Any cost in water supplies will include "payback" to SWP and use of modified CVP operation, (b)(2) and possibly (b)(3) to implement actions. DOI will use these three "tools" to minimize impacts to other uses of CVP water supply. CVP 1996 water management workshop set for 3/11 which will include evaluation of meeting these supplemental delta fishery actions and other fish flow objectives upstream. USBR/DWR must achieve agreement to implement and coordinate via Cal Fed/Ops group.

** Other various non-anadromous species also will be helped by most actions.

A) Assumes Vernalis pulse flow of ~7,000 cfs in pulse and allowable export total of 3,500 under Accord and Smelt BO. Desired AFRP I/E ratio of 4:1 = 1750 exports. Accord cost in supply ~140 kaf, AFRP cost ~100 kaf, plus 60k (b)(3) purchase to reach 7000 pulse.

B) Probably minor supply cost if water year is above normal. Delta inflow projected ≥ 13,000 cfs in May. If upriver channel depletions increase over projected levels some decrease possible in late May which would require reservoir releases to keep above 13,000 cfs.

C) E/I ratio dependent largely on SWP, fish distribution via surveys will determine the timing and degree of ramping necessary for protection and potential cost.

D) X2 should not be controlling as high flows in March, April, early May should keep X2 to further west and allow action to be achieved.

E) Assumes total CVP/SWP export curtailment of 5,000 cfs/d or 10,000 af/d. ten d=100 kaf. If SWP portion of San Luis Reservoir is filled by December, supply costs would be lower.

F) Quantification of benefits is difficult although past data and smolt survival and Striped Bass models provide support for these actions. Benefit related to primary species [illegible]

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